

Crater Gold Mining Limited ABN 75 067 519 779

Level 4, 15-17 Young St Sydney, NSW, 2000 Australia Ph (02) 9241 4224 Fax (02) 9252 2335

## **QUARTERLY ACTIVITIES REPORT**

## For the period ended 31 March 2014

About Crater Gold Mining Limited (ASX CODE: CGN)

#### **KEY POINTS**

Crater Gold Mining Limited ("CGN" or "the Company") is focussed on development at the potentially world class Crater Mountain gold project in PNG, at Fergusson Island in PNG and at the A2 polymetallic and Golden Gate graphite projects at Croydon

## Crater Mountain - Papua New Guinea

<u>Croydon Gold-Graphite – North Queensland</u>

 Drilling program at HGZ project- a 16 diamond drill hole programme commenced with aim of delineating resource.

Transfer of EPM18616 completed. Greatly expands coverage of

## **Crater Gold Mining Limited**

in Queensland, Australia

ABN: 75 067 519 779 Level 4 15-17 Young Street Sydney NSW 2000 Australia

Phone +61 2 9241 4224 Fax +61 2 9252 2335

## **SUBSEQUENT TO END OF QUARTER**

Golden Gate graphite deposit.

## www.cratergoldmining.com.au

# **Greg Starr Managing Director**

Phone +61 2 9241 4224

#### **Crater Mountain - Papua New Guinea**

- Excellent initial high grade gold results from HGZ Project drilling programme
- Zone of very high grade mineralisation continues to depth below exploration adit level

#### **CRATER MOUNTAIN, PNG**

#### Key developments during the Quarter

### **High Grade Zone project**

The Company has been exploring the HGZ since August 2013 through the development of an underground adit and cross cuts. This development has passed through a 15m wide zone of intense brecciation containing several narrow gold bearing mineralised structures correlating well with the surface artisanal workings.

#### 10,000 high grade ozs gold production targeted in first year of mining

The very high grades of coarse free gold mineralisation (ASX Release 19 November 2013 - "Bonanza gold grades intersected at High Grade Zone") in these structures will support a small, highly selective narrow vein mining operation requiring simple mining infrastructure and recovery of gold by gravity separation without the need for complex processing technology. Mining will be carried out underground by hand held mining methods at a rate of approximately 1,000 tonnes per month. A process plant has now arrived in Goroka, especially designed and built in modular form for simple installation and ease of operation.

The Company believes that gold can be extracted from the HGZ via a simple process that requires modest capital with low operating costs. The Company believes that in the first year, production of 10,000 ounces is achievable.

Fast tracking gold production remains the Company's priority, as this will generate strong cashflow to assist ongoing development activities

This activity is under the supervision of Mining Engineer Mr Richard Johnson, who is the Company's Papua New Guinea General Manager. Mr Johnson has extensive hands-on experience with underground narrow vein mining in Papua New Guinea. In particular he was Divisional Director of DRDGold responsible for Tolukuma Gold Mine in PNG's Central Province from 2002 to 2005. Tolukuma is an underground vein system gold mine similar to the Company's HGZ project.

#### **Drilling Program at HGZ**

A drilling programme commenced in February at the High Grade Zone (HGZ).

The objective of the drilling is to further delineate the zone to generate a measured resource prior to the commencement of production.

The Company mobilised a Diamec 250 hydraulic underground diamond drill rig to be used initially to drill from the surface adjacent to the exploration adit portal before being installed underground to drill from specially prepared drill cuddies.

A first stage of approximately 1,800m of drilling comprising approximately sixteen diamond drill holes will be drilled in four fans providing potential coverage for 80m strike and 100m of dip extension of the identified high grade mineralised zone. The holes are planned to intersect the mineralised zone with each hole approximately 20m apart (refer to Figures 1 2, 3 and 4). The first fan to be drilled is E Section Line (110°) shown on plan in Figure 1 and in section on Figure 2 to be followed by fans at bearings of 85°, 134° and 45° respectively. As results come to hand, the programme will be reviewed and modified as necessary.

While the current focus remains on the HGZ project, the Company also has the JORC compliant inferred resource of 24Mt @ 1.0g/t of Au for 795,000 ounces at the Mixing Zone. (ASX Release 24 November 2011: Crater Mt – Initial Resource Estimate) (This information was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported). Anticipated positive cash flow from mining the HGZ will be channelled into further testing of the Mixing Zone and into evaluating the porphyry copper-gold potential. See the Appendix for background information on the Crater Mountain Project.

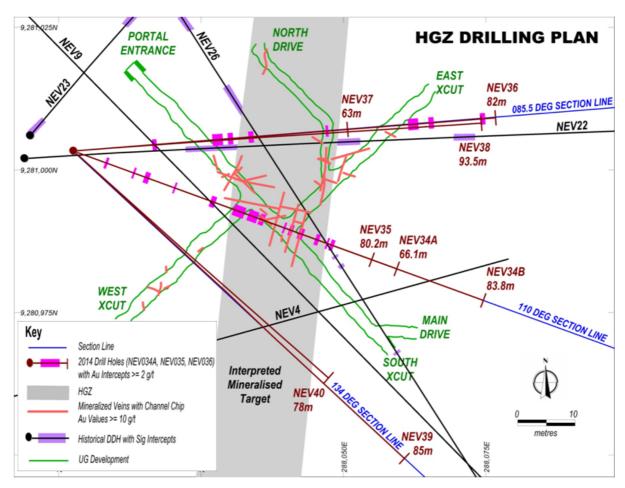


Figure 1 - Plan of Current Drill Hole Traces and Historic Drill Holes

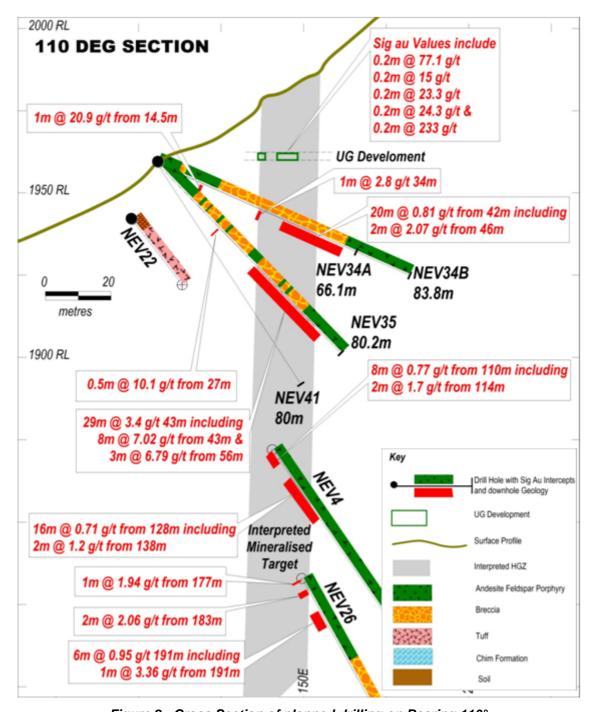


Figure 2 - Cross Section of planned drilling on Bearing 110°

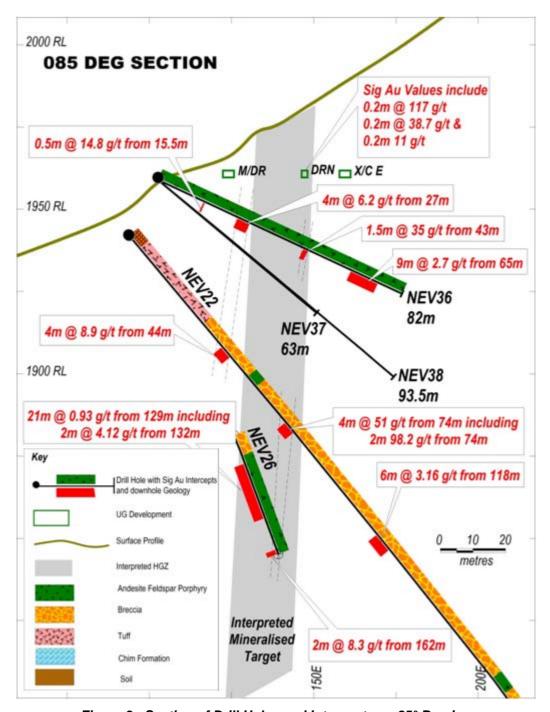


Figure 3 - Section of Drill Holes and Intercepts on 85° Bearing

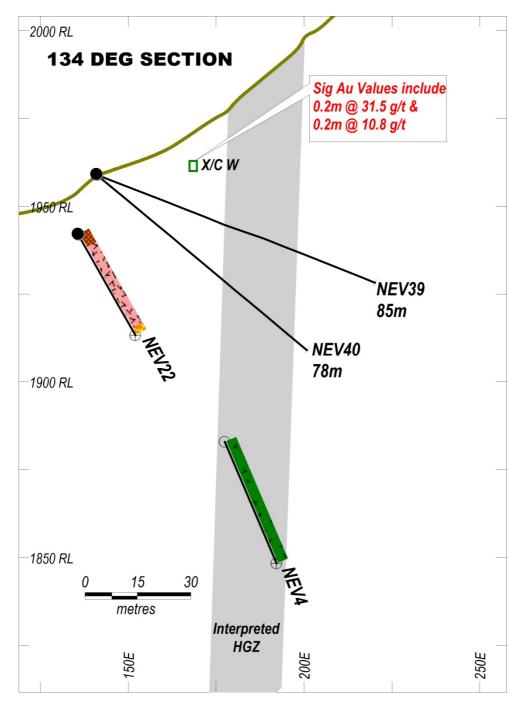


Figure 4 - Section of Drill Holes and Intercepts on 134° Bearing

### **SUBSEQUENT TO END OF QUARTER**

## High Grade Gold Drilling Results - High Grade Zone (HGZ) Crater Mountain PNG

### **Highlights**

- Excellent high grade gold results continue
- Zone of very high grade mineralisation continues to depth below exploration adit level
- Drilling confirms a broad mineralised zone hosting narrow high grade structures over a strike currently of approximately 60m and down dip of approximately 90m

Interval (m)	grade (g/t)	depth (m)	Section Diagram	Reason for Interval Significance
New Results				
NEV34a			110 Deg Section	
1.0	20.90	14.50		A new structure outside the interpreted mineralised zone
20.0	0.81	42.00		Zone of mineralisation confirming depth extension
Nev35			110 Deg Section	
0.5	10.10	27.00		A new structure outside the interpreted mineralised zone
29.0	3.39	43.00		Zone of mineralisation confirming depth extension
including				
2.0	4.30	43.00		
2.5	16.53	47.00		Correlates with underground development
0.5	24.70	56.50		Correlates with underground development
Nev36			85 Deg Section	
0.5	14.80	15.50		A new structure outside the interpreted mineralised zone
4.0	6.20	27.00		Zone of mineralisation confirming depth extension
1.5	34.96	49.00		Further confirmation of high grade and in HGZ planned mining zone
9.0	2.72	65.00		Indication of possible width extension of mineralised zone
Historical resu	ılt NEV22			
4.0	8.90	44.00		Good correlation with Nev 36
4.0	51.00	74.00		
including				
2.0	98.20	74.00		Good correlation with Nev 36
6.0	3.16	118.00		Confirmation of depth continuity

Table 1 - Drilling intercepts

The Company received its initial results from its diamond drilling programme at its 100%-owned High Grade Zone (HGZ) project at Crater Mountain, PNG

The key outcome of the results received to date is that they highlight the very strong correlation with the geology and grades encountered directly 40m above in the underground development. Further excellent results are all in the planned mining zone. Drilling confirms a broad mineralised zone hosting narrow high grade structures over a strike currently of approximately 60m and down dip of approximately 90m

#### **Drilling Programme**

The drilling program is designed to confirm immediate strike and dip continuity of narrow high grade structures encountered within a coherent zone in the underground exploration development (refer to the plan in Figure 1 and the sections in Figures 2, 3 and 4 which show the drill hole positions relative to the underground development).

The initial drilling is from the surface and the rig will then move underground to drill from specially prepared drill platforms.

Because it is primarily an underground scout drilling tool, the rig is smaller and lighter than the surface drill rigs previously used by the Company, with considerably less depth penetration and smaller core diameter making continuous full core recovery a constant challenge.

#### **Discussion of Results**

8 holes have been drilled along 3 section lines from a single drill pad at surface, for a total of 632m amounting to approximately 30% of the current programme (refer to the plan in Figure 1 and the sections in Figures 2, 3 & 4). The drilling sequence has been to drill 2 holes on each section line at shallow inclinations before returning to the centre section line to test the structures at greater depth. Drilling commenced on the 110° section line. Results have been received for NEV034a, NEV035 and NEV036, which show good correlation with the geology and grades encountered in the underground development directly above the target area.

NEV034a was the first hole drilled in the programme. With the crews still undergoing familiarisation with the rig and ground conditions, core recovery over the 20.0m wide mineralised section from 42m was relatively poor, averaging 78.3% with two 1.0m sections only recording 30% recovery. Consequently a twin hole, NEV034b, was later drilled and assay results are awaited for this hole (Figure 2). Core recovery has improved significantly with experience and improved use of drilling muds, generally recording greater than 90% (NEV035 achieved 95% and NEV036 achieved 89% over the mineralised sections respectively). Experience in the underground development is that the gold bearing structures are narrow, oxidised and soft with a high risk of core loss during drilling and hence the potential of underestimation of gold content.

NEV034a (Figure 2 - Section drawn at 110°) recorded a high grade intersection of 1.0m at 20.9 g/t Au from 14.5m; this is a new structure that was previously unmapped. Because of the above noted poor core recovery in the main 20.0m mineralised section from 42m the hole was later re-drilled with NEV034b and assay results are expected shortly.

NEV035 returned a broad zone of 29m at 3.39 g/t Au from 43m which included two high grade sections, being 2.5m at 16.53 g/t Au from 47m and 0.5m at 24.7 g/t Au from 56.5m. These two zones show excellent correlation with the development some 40m directly above (refer to Figure 2).

Three holes have been completed on the 085° section line, with results received for NEV036. Results are awaited for NEV038 (drilled as a twin to NEV037). The results from NEV036 contain three distinct mineralised zones that show strong correlation with the underground development and NEV022, a historical hole which intersected the mineralisation some 80m below the adit development, confirming the depth continuity of the high grade structures (refer to Figure 3).

As drilling progresses on dip and strike, the data will be carefully assessed to determine when it can be modelled to delineate measured, indicated and inferred resources.

#### CROYDON GOLD & GRAPHITE PROJECT – QUEENSLAND, AUSTRALIA

#### **Key developments during the Quarter**

The Company announced in July last year that it had entered into an agreement with Global Resources Corporation Limited ("Global") to acquire from Global a 94% interest in an Exploration Permit for Minerals (EPM) in the Croydon District in North Queensland. At the time the relevant Exploration Permit was under application by Global. EPM 18616 was granted to Global by the Queensland Department of Natural Resources and Mines and the transfer of EPM 18616 to CGN is now complete. Global retain a 6% interest in the tenement.

As reported in earlier Quarterly and Annual Reports by Crater, EPM 18616 is contiguous with EPM 8795 (owned 100% by Crater). Straddling the two EPM's is the Golden Gate graphite deposit that was subject to exploration drilling by Central Coast Exploration (CCE) in the late 1980's and Gold Anomaly from 2005-7.

Metallurgical testing of graphite samples from these earlier periods of exploration were generally encouraging, but insufficient work was undertaken at that time to confirm whether or not graphite products capable of commercial marketing could be produced. The Company plans to obtain fresh graphite sample by diamond drilling to investigate the commerciality of the deposit.

In addition to its graphite potential, EPM18616 covers several kilometres of the Golden Gate gold trend, the largest past producer of gold of the historic goldfield where over 1 million ounces of gold is reported to have been produced. Five priority exploration targets have been outlined along sections of the Golden Gate trend that have potential for new gold discoveries.

See the Appendix for background information on the Croydon Gold and Graphite Project.

#### **COMPETENT PERSON STATEMENTS**

The information contained in this report relating to Exploration Results, exploration target and mineral resource estimate at Crater Mountain PNG is based on and fairly represents information and supporting documentation prepared by Mr Richard Johnson, PNG Country Manager of Crater Gold Mining Limited. Mr Johnson is a Fellow of The Australasian Institute of Mining and Metallurgy and has the relevant experience in relation to the mineralisation being reported upon to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Johnson consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

The information contained in this report that relates to exploration results at Croydon, Queensland is based on and fairly represents information and supporting documentation prepared by Mr J V McCarthy, MAusIMM, consulting Geologist. Mr McCarthy is a Member of The Australasian Institute of Mining and Metallurgy and has the relevant experience in relation to the mineralisation being reported upon to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr McCarthy consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

#### **Schedule of Crater Gold Mining Limited tenements:**

Particulars	Project Name	Registered Holder	% Owned	Status	Expiry	Area (Km²)
EPM 8795	Croydon	CGN	100	Granted	6/09/2016	19.2
EPM 9438	Mount Angus	CGN	100	Granted	14/07/2016	19.2
EPM 10302	Gilded Rose	CGN	100	Granted	31/12/2015	6.4
EPM 13775	Wallabadah	CGN	100	Granted	5/03/2017	32
EPM 16002	Foote Creek	CGN	100	Granted Renewal lodged	30/01/2013	28.8
EPM 18616	Black Mountain	CGN	94 <sup>1</sup>	Granted <sup>3</sup>	18/06/2018	96
EPM 25186	Croydon Gold	CGN	100	Application		60.8
EL 1115	Crater Mountain	Anomaly Ltd <sup>2</sup>	100	Granted	25/09/2014	41
EL 1353	Crater Mountain	Anomaly Ltd <sup>2</sup>	100	Renewal lodged	20/06/2012	113
EL 2249	Crater Mountain	Anomaly Ltd <sup>2</sup>	90	Granted <sup>4</sup>	11/11/2015	10
EL 1972	Fergusson Island	Anomaly Ltd <sup>2</sup>	100	Granted	20/12/2014	67
ELA 2180	Fergusson Island	Anomaly Ltd <sup>2</sup>	100	Granted	27/06/2015	37

<sup>&</sup>lt;sup>1</sup> 6% owned by Global Resources Corporation Limited

<sup>&</sup>lt;sup>2</sup> Anomaly Limited is CGN's 100% owned PNG subsidiary

<sup>&</sup>lt;sup>3</sup> Transfer of CGN's 94% share of this tenement occurred in January 2014

<sup>&</sup>lt;sup>4</sup> EL2249 is a replacement EL for previous EL1384 and was granted to Anomaly Ltd on 11 November 2013

#### APPENDIX TO QUARTERLY REVIEW OF OPERATONS AS AT 30 MARCH 2014

#### **Background to the Company's projects**

## **Crater Mountain Project - PNG**

The Company's flagship Crater Mountain gold project is located in the Eastern Highlands of Papua New Guinea ("PNG") near the eastern end of the New Guinea Orogen geological province, which lies along the northern edge of the Australian continental plate and occupies the mountainous backbone of the island of New Guinea. The New Guinea Orogen hosts a number of world-class copper-gold deposits including the world's largest copper-gold mine at Grasberg in Indonesia's Papua Province, and Ok Tedi, Frieda River, Yandera and Wafi-Golpu in Papua New Guinea, as well as the Porgera and Hidden Valley gold deposits in Papua New Guinea. All of these deposits share a common geological mode of formation in large mineralised hydrothermal systems underlying variably eroded volcanic complexes from mid-Miocene to recent in age.

The Crater Mountain tenement block comprises andesitic volcanic rocks of the ancestral Pliocene Crater Mountain stratovolcano which grew to an immense size before undergoing caldron collapse on a ring fracture system 20 kilometres in diameter, perhaps 4 million years ago. This event was followed by a long period of volcanic quiescence and deep erosion which continued until about 1 million years ago when renewed andesit cones principally within and east of the northeast quadrant of the collapse structure. The volcanic rocks were intruded through and deposited on a rugged basement of Chim Formation Mesozoic marine shales, with intermittent reactivation of north-easterly-, northerly- and north-westerly-trending deep crustal fractures in the basement controlling the geometry of the sub-volcanic magmatic and hydrothermal activity and mineralisation.

Exploration by the Company at Crater Mountain is focused principally at the northern end of the large Nevera Prospect, one of four prospects identified within the Company's licences since exploration commenced in the region in the 1970s.

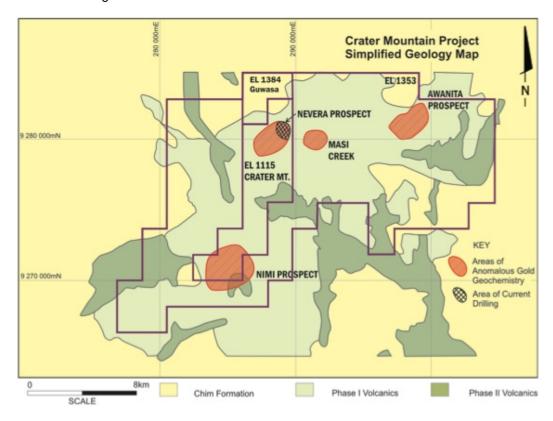


Figure 5 - Prospect map Crater Mountain

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The results of mechanical benching and diamond drilling conducted by the Company around the end of a prominent ridge at the northern end of the Nevera Prospect indicate that the Prospect lies within a typical large and complex New Guinea Orogen mineralised hydrothermal system, with excellent potential to host a number of deposits within its bounds. Mineralisation is associated with sub-volcanic magmatic activity related to the locally-prominent Nevera Igneous Complex, and four different types of mineralisation have been identified:

- The relatively shallow Main Zone or Mixing Zone lying 150m to 300m below the northern end of the Prospect ridge, which comprises low-sulphidation epithermal carbonate-base metal sulphide-gold mixing zone mineralisation in excess of 600m long by 250m wide by 150m thick (with similarities to the Hidden Valley deposit in the nearby Morobe Goldfield).
- Note: A JORC compliant inferred resource of 24Mt at 1.0 g/t Au using a 0.5 g/t Au cut-off for 790,000 ounces has been defined in the Main Zone; this includes 9.4Mt at 1.46 g/t using a 1.0 g/t Au cut-off for 440,000 ozs (this inferred resource is open laterally and perhaps to depth, following down a possible steep plunge to the northeast)
- The High Grade Zone ("HGZ") high grade high-sulphidation epithermal quartz-pyrite-gold mineralisation, extending from surface to several hundred meters depth (possibly in excess of 500m); local artisanal miners produced an estimated 15,000 ounces from a small area of shallow workings (maximum 50m depth) in the base of a steep mineralised spur from 2005 to 2012
- A large porphyry copper-gold system identified by drilling at +800m depth below the northern end
  of the ridge ("Golpu" type from Wafi-Golpu in the Morobe Goldfield)
- A possible lead-zinc related quartz-carbonate-base metal sulphide-gold stockwork vein and breccia
  feeder zone (for the Mixing Zone mineralisation) at the margin of the deep intrusion (+600m) which
  is causing intense baking and fracturing of the sub-volcanic basement shales underlying the Mixing
  Zone (Porgera "Waruwari" type).

#### MINERALISATION AT THE NORTHERN END OF NEVERA PROSPECT

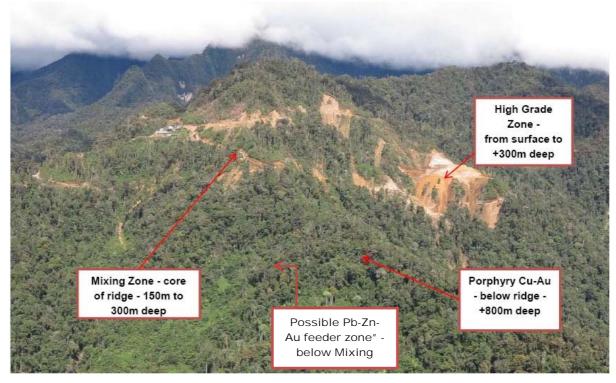


Figure 6 - Nevera Prospect

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#### **High Grade Zone**

Based on artisanal miners' production using very simple mining and gravity separation methods, assays from historic surface trench and bench sampling, and the Company's limited drill results, the High Grade Zone has been assessed as an area where development of small scale, high grade underground mining can be undertaken. It is estimated that there could be gold in the fractures and ore shoots which are known to extend down at least 100m from surface and potentially extend many hundreds of metres deeper to the underlying magmatic source identified during the nearby drilling of the Mixing and Porphyry Zones.

By carrying out detailed geological mapping and sampling (in particular plotting the mineralised fractures and identifying the distinctive zoned alteration which surrounds the steeply plunging high grade ore shoots), it will be possible to derive a clear 3-dimensional picture of the mineralisation and assess its potential tonnage and grade to a depth of 60m to 70m below gully level and up to 30m above gully level. Quarrying of benches on the spur will also expose the outcropping structures for detailed mapping and sampling to tie in with the underground results.

Underground drill stations will be established in the cross-cuts to fan out numerous small-diameter diamond drill holes 60 to 100m long, horizontally and inclined upwards and downwards, using a compressed air operated underground drill rig.

Based on the high grade high-sulphidation vertical ore shoot nature of the mineralisation, current indications are that the main potential of the High Grade Zone lies below the artisanal workings in the base of the mineralised spur, extending to an unknown depth but possibly many hundreds of metres. The mineralisation comprises several sets of gold-mineralised sub-vertical narrow rubbly fractures with associated near-vertical bonanza-grade ore shoots up to one metre wide at their intersections, within a steeply-plunging elongate related to a high sulphidation epithermal gold mineralising event sourced in the deep intrusions underlying the northern end of the Nevera Prospect.

The Company believes that the Crater Mountain project has both the potential for near term low cost production as well as large scale, bulk tonnage for long term development. With financial markets still displaying volatility for the junior resource end the Company will focus on generating cash flow from the High Grade Zone.

#### Fergusson Island Project - PNG

The Gameta gold deposit and the Wapolu gold deposit, located in close proximity to each other on the north-coast of Fergusson Island in Papua New Guinea, comprise the Company's Fergusson Island Project, upon which over \$15M has been spent since 1996.



Figure 7 – Location of Gameta and Wapolu deposits, Fergusson Island, PNG

The Fergusson Island Project comprises two drilled gold deposits, Gameta and Wapolu. The Company previously announced its first resource estimate reported in accordance with the JORC Code for the Gameta deposit, an Inferred Resource of 5.1 million tonnes at 1.8 g/t for 295,000 ounces of gold at a cut-off grade of 1.0 g/t gold. Further drilling down-dip can be expected to increase the size of the resource.

The Gameta gold deposit lies close to the coastline in the north east of Fergusson Island in the D'Entrecasteaux Islands of Papua New Guinea's Milne Bay Province and is located about 30 kilometres east of the Wapolu gold deposit.

The D'Entrecasteaux Islands comprise a number of metamorphic core complexes which form prominent tectonic domes of probable Cretaceous age. The domes consist of a core of high-grade crystalline rocks surrounded by a layered outer zone, between 1 and 2 km thick, composed of amphibolite facies gneisses. This layered zone is separated from over-thrust sub-seafloor oceanic mantle by a decollement (Detachment Fault Zone); overlaying ultramafic rocks of the obducted block are largely serpentinised dunites, harzburgites, and pyroxenites. Thick colluvial deposits of landslide and slump debris mantle the margins of the domes and are prominent at Wapolu.

Mineralisation at Wapolu and Gameta is hosted in the Detachment Fault Zone and within the footwall dioritic gneiss and appears to be both fracture and dyke-related, and sulphide hosted. The overlying ultramafic plate, though strongly dyked, altered and fractured, carries only patchy and sporadic low-grade gold mineralisation.

The two properties have been explored for gold since the early 1980's during which time a total of 296 RC and air core holes (11,646m) and 97 diamond holes (6,401m) have been drilled at Wapolu (EL 2180) and 195 RC holes (10,179m) and 33 diamond holes (4,181m) have been drilled at Gameta (EL 1972). Much of the data from this drilling has not been subject to QA/QC and does not measure up to JORC reporting standards.

On the strength of a feasibility study completed in 1993 on the Wapolu Deposit by Macmin/ Union Resources based on their 1992 resource model a mining operation was initiated at Wapolu in December

1995. The operation was based on an estimated mining reserve of 2.0 Mt at 2.4 g/t Au and was planned to process 500,000 tonnes per annum for a 4 year mine life. Following crushing and grinding the process plant combined CIP (200,000 tpa) and NaCN vat leach (300,000 tpa) with overall gold recoveries predicted to be approximately 80% (resulting in roughly 30,000 ounces per year gold recovery). Mining was abandoned in 1997 due to poor performance arising from lower processing throughput than budgeted (including unforseen bouldery and clayey feed problems), and lower feed head grade and lower gold recovery than was predicted.

## Croydon Gold and Graphite Project - Queensland Australia

A potentially large graphite deposit is located within EPM 8795 and EPMA 18616 at the Golden Gate Project at Croydon, North Queensland.

In July 2004, the Company, when named Gold Aura Ltd, undertook preliminary assessment of a large graphite deposit located at the Golden Gate gold mine. The graphite deposit was systematically drilled as part of a regional gold exploration program in the late 1980's by Central Coast Exploration (CCE). Three vertical reverse circulation holes were also drilled by the Company between 2005 and 2007 that confirmed that a thick graphite zone was present at Golden Gate.

The Golden Gate graphite project is located partially on Exploration Permit Mining EPM8795 and continues onto the contiguous EPMA18616. The graphite deposit has undergone electromagnetic geophysical surveys and systematic drilling during the late 1980's and limited drilling and testwork by CGN in 2004. Typical RC drill intercepts from CCE drilling in 1989 are presented in Table 1.

## SUMMARY OF RC DRILLING RESULTS AT GOLDEN GATE NOVEMBER 1989 (CCE Report #192/90)

Hole #	Co-ord	inates	End of Hole	Graphite Intercept	Width (m)	Average %C @ 2% cut-off
<b>GGRC 2001</b>	24201N	9550E	50m	44 - 50	6	3.5
<b>GGRC 2002</b>	23998N	9584E	44m	-		-
<b>GGRC 2003</b>	24000N	9701E	91m	48 - 78	30	7.3
<b>GGRC 2004</b>	23859N	9642E	76m	32 - 74	42	6.6
<b>GGRC 2005</b>	24101N	9773E	97m	37 - 93	56	6.0
<b>GGRC 2006</b>	24200N	9799E	93m	60 - 89	29	4.5
<b>GGRC 2007</b>	24200N	9699E	60m	3 - 56	53	5.8
<b>GGRC 2008</b>	24300N	9649E	66m	-	-	
<b>GGRC 2009</b>	24399N	9699E	66m	-	~	-
<b>GGRC 2010</b>	24699N	9799E	30m	3 - 7	4	3.6
<b>GGRC 2011</b>	24901N	9700E	66m			
<b>GGRC 2012</b>	25000N	9949E	48m	2 - 40	38	4.8
<b>GGRC 2013</b>	24999N	10049E	66m		-	-
<b>GGRC 2014</b>	25200N	10050E	80m	55 - 78	23	4.8/3.3
<b>GGRC 2015</b>	23799N	9324E	48m	5 - 24	19	3.8
<b>GGRC 2016</b>	25384N	9898E	48m	17 - 24	7	2.5
<b>GGRC 2017</b>	25599N	10099E	48m	7 - 28	21	3.8
<b>GGRC 2018</b>	24395N	10312E	66m		-	-
<b>GGRC 2019</b>	26600N	10400E	60m	> 1	-	-

Table 2 - Drill intercepts reported by Central Coast Exploration from drilling in 1989 at Golden Gate (NOTE: all drill holes reverse circulation and vertical orientation with chip sample intervals 2m and %C determined by method GRAV6 at Amdel Laboratories, Adelaide)

The deposit has a north-westerly strike and shallow easterly dip Hydrothermal or magmatic graphite deposits are an important source of graphite with examples being mined in Sri Lanka and Sweden that produce both flake and amorphous graphite.

Since the Golden Gate graphite deposit is reasonably well defined, the Company's exploration program will focus on collection of fresh drill core samples for modern metallurgical testwork. Past testwork done on RC chip samples and near surface grab samples with contradictory results.

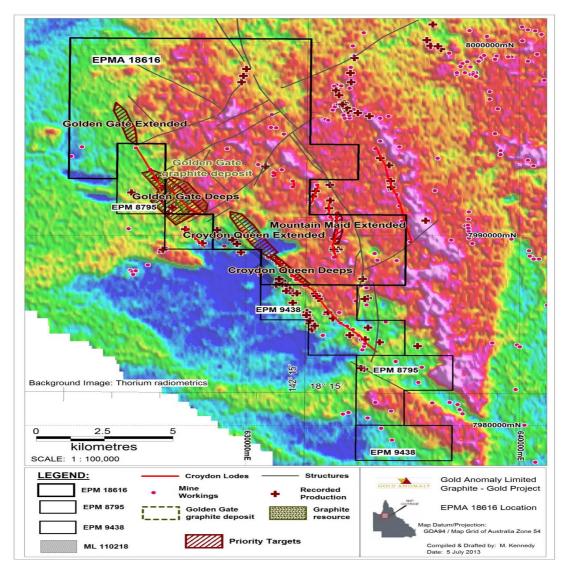


Figure 8 - Location Map of EPM18616 showing the Golden Gate graphite deposit as well as principal gold exploration targets

The acquisition of EPM18616 will consolidate the length of the Golden Gate lode within tenements held by CGN. Five priority exploration targets along the trend of the Golden Gate lode have been identified. These areas were selected as having potential for gold mineralisation under shallow cover. Future exploration will involve ground geophysics (IP & EM surveys) across target trends followed by drilling.

## 1. JORC CODE, 2012 EDITION – TABLE 1

Notes on data relating to Drilling at Crater Mountain High Grade Zone

## 1.1 Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections).

Criteria	JORC Code explanation	Commentary
Sampling techniques	Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.  Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.  Aspects of the determination of mineralisation that are Material to the Public Report.  In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	<ul> <li>Diamond drilling is used to obtain core from which samples at intervals ranging from 0.5-2.0r in length are submitted for analysis using FAA505 methodology. A 50g charge is used for fire assay for analysis for gold.</li> <li>All diamond drill core drilled by CGN is sampled in intervals based on geological logging Previous diamond drilling was carried out with PQ, HQ and NQ diameter core and all core was cut with half core typically sent for sample preparation at SGS, Lae and pulps sent to SGS Townsville for assay.</li> <li>Current diamond drilling is with LTK48 core, 35mm diameter. Whole core is sampled and ser for preparation and assay. Whole core is used to ensure sufficient sample mass an representivity.</li> <li>Underground exploration development is also carried out with drives and cross cuts. Face an sidewall channel samples are taken using moil and hammer to obtain samples of approximately 3kg. Channel lengths vary from 0.20-2.0m depending on geology.</li> </ul>
Drilling • techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc)	<ul> <li>Diamond drilling is currently carried out using an underground rig with LTK48 rods and standar tube core barrel. Core diameter is 35mm. The rig is also set up to drill from surface.</li> <li>Historical drilling by CGN at the Nevera prospect has been by diamond drilling PQ, HQ and N</li> </ul>

	and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	diameter core using triple tube and core orientation with a Reflex ACT II device
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	Core recoveryis measured for the complete hole based on the driller's mark-up, checked during core mark-up in 1m intervals by the geologist. Drill core is measured to accurately quantify sample recovery.  Gold mineralisation at the CGN HGZ is typically concentrated in narrow oxidised structures. To ensure representative samples, whole core is sampled.  This release relates to result from the first three holes in the current programme. It is not known whether a relationship exists between sample recovery and grade.
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	A qualified geoscientist logs the geology of all holes in their entirety including geotechnical features. Drill core is geologically and routinely geotechnically logged to a level of detail considered to accurately support Mineral Resource estimation. The parameters logged include lithology with particular reference to veining, mineralogy, alteration, and grain size.  All core is photographed. Recent digital photos and scans of film photography are stored electronically. All of the holes with results mentioned in the release have been logged and photographed in their entirety.
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the</li> </ul>	For samples of core, whole core is taken and bagged. Channel samples are bagged wet underground. Samples are sent to SGS, Lae for sample preparation. Samples dried in original calico bags at 105°C for 4+ hours in an Essa DO1 two cubic metre drying oven.  Dried samples crushed to 90 per cent passing 3 mm using a Rocklabs Boyd Mark III jaw crusher. Crushed samples riffle split to collect 0.6 to 1.2 kilogram subsample. Subsamples pulverised to 90 per cent passing 75 µm, for approximately three minutes in either of two Essa LM2-P pulverisers with B2000 bowl sets. One sample in 20 wet sieved to check pulveriser performance to target standards. One sample in ten selected randomly and resplit prior to pulverisation, with control samples shipped as part of the batch to SGS Townsville.

#### sampling is representative of the in Prepared assay pulps placed in wire-top bags, with several included in a heat-sealed plastic bag situ material collected, including for in a shipping box, sealed with packaging and SGS security tape. instance results for field Up to three shipping boxes placed in a labelled, security sealed and numbered poly-weave sack duplicate/second-half sampling. and shipped to SGS Townsville by DHL Express. Assaying at SGS, Townsville is by FAA505 methodology fire assay for gold Whether sample sizes are appropriate to the grain size of the material being sampled. Quality of The quality All samples are currently assayed at SGS. Townsville. SGS maintains robust internal QA/QC nature. and assay data procedures (including the analysis of standards, repeats and blanks) which are monitored with appropriateness of the assaving and and laboratory laboratory procedures used and the analytical data by CGN geologists. tests whether the technique is considered Ore grade Certified Reference Material standards and blanks are introduced into the sample partial or total. stream by the geologists. Blanks are also introduced by SGS after the sample preparation stage For geophysical tools, spectrometers, in Lae before shipment to Townsville. handheld XRF instruments, etc. the Based on the results of standard analysis, in addition to the internal QA/QC standards, repeats parameters used in determining the and blanks run by the laboratory, the laboratory is deemed to provide an acceptable level of analysis including instrument make accuracy and precision. and model. reading times. calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (eg standards, blanks, duplicates. external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established. Verification of The verification of significant Signficant intersections are checked by the Senior Exploration Geologist. sampling and Twinned holes are drilled to represent approximately 20% of the holes drilled or at least one intersections by either independent or assaving alternative company personnel. twinned hole per section line. The core is not sampled but logged and kept as a permanent The use of twinned holes. whole core record. Documentation of primary data, data Original laboratory documents exist of primary data, along with laboratory verification entry procedures, data verification, procedures. data storage (physical and electronic) The Crater Mountain drilling and channel sampling database exists in electronic form. The assay data are imported directly into the database from digital results tables sent by the laboratory. protocols. The Senior Exploration Geologist manages the drill hole assay database. Discuss any adjustment to assay data. No adjustment has been made to assay data received from the laboratory. Location of Accuracy and quality of surveys used The initial datum was established using a single station differential GPS (DGPS) at two points. data points to locate drill holes (collar and down-The mean of readings taken over 3 days was accepted as datum. Survey from the datum point is by theodolite with 20 second closure. surveys), trenches, mine

	<ul> <li>workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	Grid is UTM WGS84
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	Current drilling at the HGZ is intended to identify the nature and style of mineralisation.
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	Not applicable at this stage
Sample security	<ul> <li>The measures taken to ensure sample security.</li> </ul>	<ul> <li>For diamond drilling, whole core is collected in calico sample bagsmarked with a unique sample number which are tied at the top. Samples are transported to SGS, Lae under direct company supervision or secure independent contractor.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	•

## 1.2 Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria		e preceding section also apply to this sec JORC Code explanation		Commentary							
Mineral tenement and land tenure status	•	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.  The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	wholly owned by CGN and is due for renewal in September 2014.								
Exploration done by other parties	•	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Four programs of diamond drilling were conducted at the Nevera Prospect from 1994, when EL 1115 was first granted with successive operators BHP Billiton Pty Limited (BHP), Macmin NL (Macmin) and Triple Plate Junction Plc (TPJ). CGN acquired control of EL1115 in 2008</li> </ul>							d (BHP), Macmin NL	
Geology	•	Deposit type, geological setting and style of mineralisation.	<ul> <li>The Crater Mountain Project lies within a typical large and complex New Guinea Orogen mineralised hydrothermal system. Mineralisation is associated with sub-volcanic magmatic activity related to the locally prominent Nevera Igneous Complex.</li> <li>The mineralisation models identified to date are:</li> <li>Low sulphidation epithermal carbonate-base metal sulphide-gold Mixing Zone mineralization</li> <li>High sulphidation high grade epithermal quartz-pyrite-gold mineralisation (High Grade Zone "HGZ") extending from surface to several hundred metres depth, comprising a series of subvertical fractures and associated near-vertical mineralized shoots.</li> <li>Deep porphyry copper-gold mineralization.</li> </ul>								
Drill hole Information	•	to the understanding of the exploration results including a		Locations ar are reported					tabulated l	below.	Significant intercepts
		tabulation of the following information for all Material drill holes:		Hole	Depth (m)	GridE	GridN	RL	Grid Azimuth	Dip	
	•	easting and northing of the drill hole collar		NEV004	200	287955	9280950	1962	74	-50	
	•	elevation or RL (Reduced Level –		NEV009	458	287918	9281105	1930	135	-60	
		elevation above sea level in metres) of the drill hole collar		NEV022	282	287994	9281002	1942	85	-50	
	•	dip and azimuth of the hole down hole length and interception		NEV026	306	287982	9281090	1968	148	-45	

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	<ul><li>depth</li><li>hole length.</li></ul>		NEV034A	66.1	288002.6	9281003.3	1959	110	-24	
	<ul><li>hole length.</li><li>If the exclusion of this information is</li></ul>		NEV034B	83.8	288002.6	9281003.3	1959	110	-24	
	justified on the basis that the		NEV035	80.2	288002.6	9281003.3	1959	110	-46	
	information is not Material and this		NEV036	82	288002.6	9281003.3	1959	85.5	-25	
	exclusion does not detract from the understanding of the report, the		NEV037	63	288002.6	9281003.3	1959	85.5	-40	
	Competent Person should clearly		NEV038	93.5	288002.6	9281003.3	1959	85.5	-43	
	explain why this is the case.		NEV039	85	288002.6	9281003.3	1959	131.5	-22	
			NEV040	78	288002.6	9281003.3	1959	131.5	-40	
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	•	Drill hole intercept grades are reported as down-hole length-weighted averages with a recovered core within the reported intervals treated as no grade but included in the length. Significant intercepts are generally reported at a lower cut off of 2 g/t Au where in are limited to 1.0m or less and to 1g/t for intercepts greater than 1.0m. No top cuts ha applied						cluded in the sample of the sa	
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	•		on widths	and intercept	lengths			tionship	between lithology,

Diagrams	•	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	•	Appropriate plans and section views are presented in the release.
Balanced reporting	•	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	•	Only mineralised intersections regarded as highly anomalous, and therefore of economic interest, have been included in the results tables.  Low grade mineralisation is characterised by grades considered to be sub-economic. Such intervals are not reported in the results table.  The proportion of each hole represented by the reported intervals can be ascertained from the sum of the reported intervals divided by the hole depth.
Other substantive exploration data	•	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples — size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	•	Other exploration data have been reported in prior CGN Releases. These relate to surface geochemistry, geological mapping, geophysical survey, trenching and drilling.
Further work	•	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).  Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	•	The planned scope of the drilling programme is depicted on a plan and sections in the release showing testing depth extensions.  Future drilling is dependent on the outcome of the current programme.

#### **Appendix**

#### **Mineralisation Sampling and Core Recovery**

Mapping and sampling of the gold bearing structures in the underground development confirmed that coarse free gold is largely confined to narrow (<0.2m wide) oxidised structures within an intensely brecciated zone. High grade gold, up to 847g/t is found in the presence of hematite - limonite oxidation in narrow veins with residual vuggy silica alteration.

Three sets of high grade structures have been identified in underground development. Two of these sets of structures trend roughly NS and EW with a third shallow dipping set which are interpreted as link structures. Bonanza grades are typically found sat the junction of these sets of structures. (ASX Release 19 November 2013 "Bonanza gold grades intersected at High Grade Zone") Current drilling is broadly on an easterly azimuth from 85° to 130°. Consequently the EW trending and shallow dipping link structures are less likely to be intersected in the current programme as these structures are sub-parallel to the general azimuth of the drill holes.

An ongoing drilling programme will be undertaken from selected surface and underground drill pads planned to target these structures

Logging of the drill core confirms this style of mineralisation in very narrow veins. However, drilling is being carried out with LTK48 standard tube gear which produces 35mm core. Owing to the fractured nature of the breccia and also that the mineralised structures are for the most part very narrow, it was decided to sample whole core. Cutting of 35mm core would result in significant loss of sample, particularly in friable ground, thus reducing the mass of sample and representivity for sampling purposes. All core is logged in detail and photographed before sampling. Regular twinned holes are planned in the programme to effectively retain a permanent whole core reference across the zones.